

## Role of FNAC in Diagnosis of Breast Lumps

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### Abstract

Lumps in breast may be due to benign or malignant lesions. Fine needle aspiration cytology is a quick, simple and inexpensive procedure in diagnosis of these lumps and helps the clinician to plan correct management. A total of 240 aspirations of breast lumps were performed on patients ranging from 7 to 70 years of age. Out of 120 benign breast lesions 115 were similar on histopathology whereas all 30 malignant breast lesions were correctly diagnosed on FNAC. Diagnostic accuracy was 95.8% for benign and 100% for malignant breast lesions.

### Key words

FNAC, Breast lumps

### Introduction

Fine needle aspiration cytology as a diagnostic tool was first used in Scandinavian countries (1). It is now a well established procedure for diagnosis of lesions of breast, thyroid, lymph nodes and various organs. Breast lump is a matter of worry to patient as well clinician hence need for reliable, accurate and quick method for correct diagnosis.

### Material and Methods

A total of 240 breast aspirations were performed on patients ranging from 7 to 70 years of age. Cytohistological correlation was done in cases subjected to subsequent histopathology. Aspiration was done with 20 ml disposable syringe fitted with 21 gauge needle and material spread on glass slides was air dried for staining with May Grunwald Giemsa stain and wet

fixed in 95% ethylalcohol and stained with Papanicolaou Stain.

### Results

Out of total 240 breast aspirations 200 were benign, 35 malignant lesions and rest 5 were suspicious of malignancy. Table 1 shows analysis of 200 benign lesions. A diagnosis of fibroadenoma was made where monolayered sheets of ductular epithelial cells were seen. Cells showed round to oval nuclei with coarse chromatin and many bipolar naked nuclei in background. Out of 62 histological correlated cases, two were inconsistent of adenosis and malignancy. Latter case faltered because of history of lactation depicting atypia.

Fibroadenosis was diagnosed when sheets of duct epithelial cells showed mild pleomorphism, foam cells

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and pocrine cells. Out of 40 cases, one case turned out to be of normal histology. Smears from inflammatory lesions showed necrotic background, polymorphs and plasma cells. Out of 8 cases correlated histologically, 2 cases were inconsistent and were diagnosed as abscess and mastitis. Four cases of granulomatous mastitis, 4 fat necrosis and 2 galactoceles were all confirmed on histopathology. Table II shows cytohistological correlation of 40 malignant breast lesions. Out of 40 cases of breast malignancy, tissues available for histopathology were 26, 3 and 1 from carcinoma group, suspected malignancy and metastatic group respectively and all proved to be same as reported on FNAC. Smears from these lesions were highly cellular with high N:C ratio with coarse clumped chromatin and prominent nucleoli and arranged in loose clusters along with tumor giant cells. Background was bloody and necrotic.

**Table I**

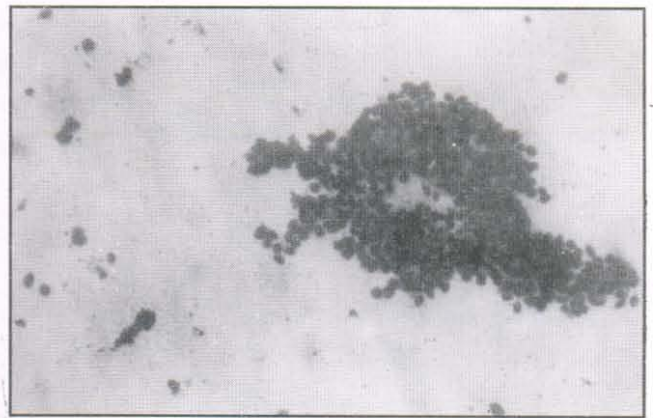
Cytohistological Correlation of Benign Breast lesions on FNAC (200 cases)

Cyto. Diagnosis	Cases	Tissue available	Histopathology		Histo Diagnosis Inconsistent
			Consistent	Inconsistent	
Fibroadenoma	97	62	60	2	1. Adenosis 2. Malignancy
Fibroadenosis	81	40	39	1	1. Normal
Galactocoele	2	2	2	—	
Inflammatory	12	8	6	2	1. Abscess 2. Mastitis
Granulomatous	5	4	4	—	
Fat necrosis/cyst	6	4	4	—	
	<b>200</b>	<b>120</b>	<b>115</b>	<b>5</b>	

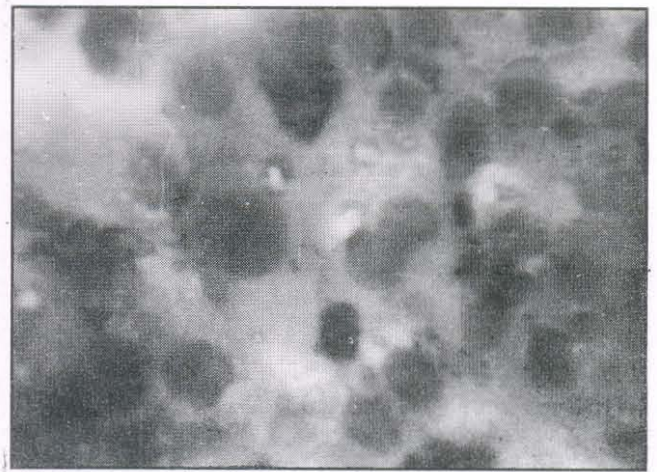
**Table II**

Cytohistological Correlation of Breast Malignancy (40 cases)

Cyto Diagnosis	Cases	Tissue available	Histology	
			Consistent	Inconsistent
Carcinoma	34	26	26	—
Suspected Malignancy	5	3	3	—
Metastatic	1	1	1	—
	<b>40</b>	<b>30</b>	<b>30</b>	<b>—</b>



**Fig. 1** Microphotograph showing tightly cohesive clusters of Fibroadenoma (X 100).



**Fig. 2** Microphotograph showing loosely cohesive clusters with high nuclear : cytoplasmic ratio of carcinoma (X 400).

### Discussion

Lumps in breast may be benign or malignant. Preoperative diagnosis helps in planning the correct surgical and therapeutic treatment. Diagnostic accuracy by various authors in their respective studies were 97.1%, 93.61%, 96.20%, 97.87%, 97.1% (1-5). In present study of 240 cases when compared with histopathology, 200 cases were benign where percentage accuracy was 95.8%. Diagnostic accuracy was 100% in 40 malignant lesions of breast as compared to 96.1%, 94.3%, 89.8%, 97.7% 94.34% and 96.77% as reported in other studies (3-8).

Fine needle aspiration cytology is a quick, *inexpensive, simple, safe accurate and readily acceptable* procedure to patient and can be performed in OPDs and operation theatres, thus it obviates the need of frozen sections sometimes and has no known complications whatsoever.

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